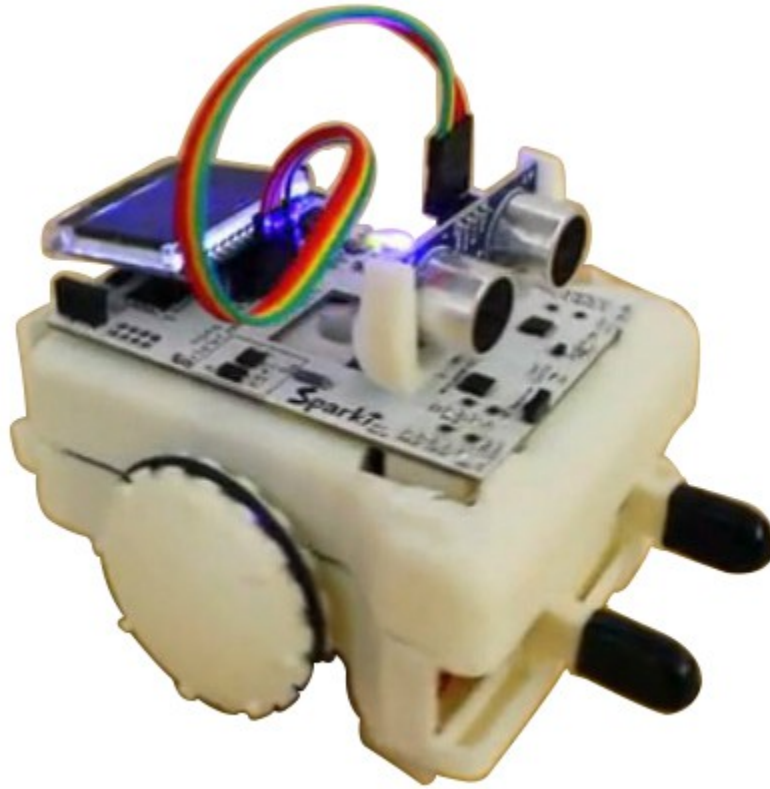


RB-Arc-08 ArcBotics Sparki Robot



Sparki is an affordable, easy to use, and fun intro to programming, electronics, and robotics. It is geared towards kids elementary-age and above, educators looking for an easy intro to robotics, parents eager to find something affordable but educational and fun, DIY enthusiasts, and more. It is simple enough for beginners, while being feature-packed enough to be a must-have for pro-users. Sparki is your chance to have your very own robot, completely open source and available to do your bidding. It has been featured on Fast Company, Boston Globe, MAKE, Kickstarter Staff Pick, Ars Technica and more.

The Robot



Sparki works out of the box with its remote control. To write your own programs, just plug it in via USB, install the custom-enhanced Arduino software and try any of the dozens of example programs.

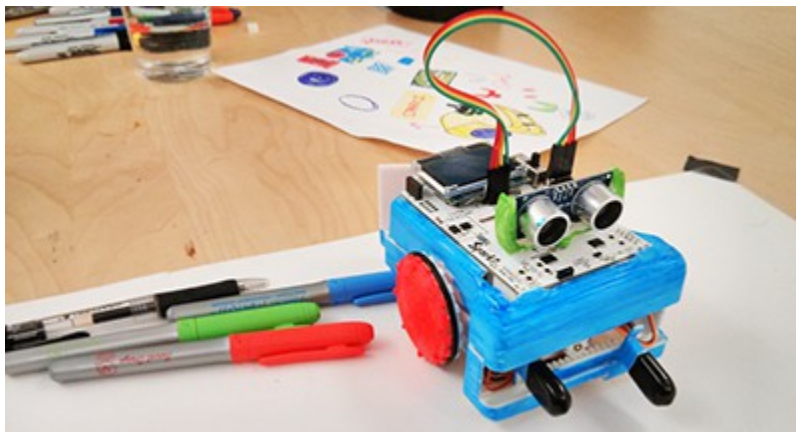
We have programs for every sensor and actuator on Sparki:

- 1x Ultrasonic distance sensor (get distance from Sparki to walls/objects)
- 1x 3-Axis Accelerometer (pick-up detection, fall detection, hill climbing)
- 1x 3-Axis Magnetometer (sense the magnetic field around Sparki, coordinate with accelerometer to detect compass heading)
- 3x Light-sensing phototransistors (light following, darkness seeking)
- 5x Line-following and edge detection sensors (mazes, line follow, sumo)
- 1x 128×64 Graphic LCD
- 1x RGB LED (RGB = generate any color!)
- 1x Buzzer (beeping, booping, and musical tones!)
- 1x IR Transmitter (like your TV remote control)
- 1x IR Receiver (like your TV)
- 1x IR Remote control (lots of buttons to control Sparki with)
- 1x TTL Serial port for expansion (talk to an Arduino/Raspberry Pi)
- 1x Port for Bluetooth Serial Module (not in all rewards)
- Powered by 4xAA batteries (rechargeable or alkaline)
- 2x Geared stepper motors (precise, measured movement down to millimeters/ sub-degrees)

Marker holder for drawing



And textured ABS plastic shell for your choice of decoration



Education

Based on pilot-class testing of Sparki with middle school aged children, as well as extensive experience teaching Arduino classes to kids and adults alike, we're developing complete tutorials and individual or classroom lesson plans for Sparki, all available for free (CC Attribution licensed).



Here are some of the things you'll learn how to do:

- Edge avoidance
- Line following
- Maze solving
- Wall avoidance
- Room navigation
- Object retrieval
- Follow/hide from light sources
- Shape drawing
- Computer input (make a keyboard/mouse using sensors)
- Games with other Sparkis

And more advanced concepts:

- PID Loops
- Pathfinding algorithms
- Signal Filtering
- Heuristics